



February 9, 2004

To: Commissioner for Patents
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Subject: | Serial No. 10/718,372 11/20/03 |

Jei Wei Chang et al.

SELF-ALIGNMENT SCHEME FOR ENHANCE-
MENT OF CPP-GMR

INFORMATION DISCLOSURE STATEMENT

Enclosed is Form PTO-1449, Information Disclosure Citation
In An Application.

The following Patents and/or Publications are submitted to
comply with the duty of disclosure under CFR 1.97-1.99 and
37 CFR 1.56.

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being
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P.O. Box 1450, Alexandria, VA 22313-1450, on February , 2004.

Stephen B. Ackerman, Reg.# 37761

Signature/Date Stephen B. Ackerman 2/12/04

U.S. Patent 5,627,704 to Lederman et al., "Thin Film Giant Magnetoresistive CPP Transducer with Flux Guide Yoke Structure," discloses a CPP GMR stack structure formed within a gap located in one of two pole layers of a magnetic yoke structure which also has a transducing gap formed in an ABS plane.

U.S. Patent 5,668,688 to Dykes et al., "Current Perpendicular-to-the-plane Spin Valve Type Magnetoresistive Transducer," discloses a spin valve CPP configuration in which the active layers form a stack of uniform width disposed between upper and lower shield and conductor layers.

U.S. Patent 6,353,318 to Sin et al., "Magnetoresistive Sensor Having Hard Biased Current Perpendicular to the Plane Sensor," discloses a method for forming a CPP sensor having hard bias layers positioned so as not to allow shorting between the current carrying leads.

U.S. Patent 6,002,553 to Stearns et al., "Giant Magnetoresistive Sensor," discloses a CPP 3-dimensional microarchitecture in which the stack layers are substantially rectangular in shape and of very small size (between 0.1 and 5 microns).

U.S. Patent 6,134,089 to Barr et al., "Current Perpendicular to Plane Magnetoresistive Device with Low Resistance Lead," discloses a CPP design in which the sensor leads are shaped to have low resistance without the necessity of an increase in spacing between the upper and lower magnetic shields between which the sensor stack is disposed.

Co-pending U.S. Patent Application HTIRC-02-003, Serial No. 10/392,118, filed 03/19/03, assigned to the same assignee, "GMR Improvement in CPP Spin Valve Head by Inserting a Current Channeling Layer (CCL)," discusses the fabrication of giant magnetoresistive (GMR) magnetic field sensors of a "current-perpendicular-to-the-plane" (CPP) configuration.

Co-pending U.S. Patent Application HTIRC-02-004, Serial No. 10/718,373, filed 11/20/03, assigned to the same assignee, "Method of Increasing CPP GMR in a Spin Valve Structure," discusses giant magnetoresistive (GMR) magnetic field sensors having a spin valve structure and a "current-perpendicular-to-the plane" (CPP) configuration.

Sincerely,



Stephen B. Ackerman,
Reg. No. 37761

<p>Form PTO-1449</p> <p>INFORMATION DISCLOSURE CITATION IN AN APPLICATION</p> <p>(Use several sheets if necessary)</p>				Document Number (Optional)	Application Number		
				HTIRC-02-006	10/718,372		
				Applicant	Jei Wei Chang et al.		
				Filing Date	11/20/03		
U. S. PATENT DOCUMENTS							
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE	
	6353318	3/5/02	Sin et al.	324	252	3/10/00	
	6002553	12/14/99	Stearns et al.	360	113	2/28/94	
	6134089	10/17/00	Barr et al.	360	322	3/11/99	
	5627704	5/6/97	Leiderman et al.	360	113	2/12/96	
	5668688	9/16/97	Dykes et al.	360	113	5/24/96	
FOREIGN PATENT DOCUMENTS							
	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO
OTHER DOCUMENTS (Including Author, Title, Date, Page(s), Etc.)							
-	Co-pending U.S. Patent App. HTIRC-02-003, Serial #10/392,118, filed 03/19/03, same assignee, "GMR Improvement in CPP Spin Valve Head by Inserting a Current Channeling Layer"						
-	Co-pending U.S. Patent App. HTIRC-02-004, Serial # 10/718,373, filed 11/20/03, same assignee, "Method of Increasing CPP in a Spin Value Structure."						
EXAMINER	DATE CONSIDERED						

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.